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AUTHOR Burnett, Mary; Allenbaugh, Patricia
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ABSTRACT

This project was conducted to upgrade Seattle Central Community College's four-quarter respiratory care program to a two-year associate degree program in respiratory therapy. The program needed to include a developmental pathway for entry of nontraditional students and also a college-level prerequisite entry pathway for traditional students. In developing the core curriculum, the following major sources of information were used: (1) the Joint Review Committee for Respiratory Care Education (JRCRTE), which also accredits these programs; the National Board for Respiratory Care composite examination matrix for their entry-level and advanced practitioner credentialing examinations; and (3) interviews and discussion with the Respiratory Technician Advisory Board and other leaders in respiratory care. The result of this project is an associate-degree level respiratory care curriculum that addresses two concerns: first, accessibility and successful completion of the program to and by nontraditional students who lack sufficient academic background, and second, the local health industry's demand for qualified entry-level practitioners in respiratory care. The curriculum plan uses lecture/discussions, laboratory experiences, and clinical settings. Along with traditional audiovisual materials used in allied health education, the program incorporates computer-assisted instruction modules into both the lecture and laboratory portions of the curriculum. This curriculum will make health careers available to a much larger segment of the college's student population and enable them to compete more effectively in the job market. (Program descriptions and course outlines are included in this report.) (KC)

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EXPANDING THE RESPIRATORY THERAPY CURRICULUM
CURRICULUM DEVELOPMENT PROJECT CONDUCTED UNDER

FINAL REPORT

Project No. 84-ASP(152)NB

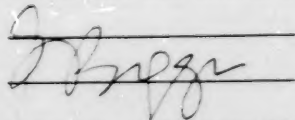
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Dr. Mary Burnett, Project Director
Patricia Allenbaugh, Principal Investigator
Seattle Central Community College
1701 Broadway
Seattle, Washington 98122

December 20, 1984



RESEARCH COORDINATING UNIT

Washington State Commission for Vocational Education

FINAL REPORT

Project No. 84-ASP(152)NBE

Expanding the Respiratory Therapy Curriculum

Curriculum Development Project
Conducted Under
Public Law 94-482

The project reported herein was performed pursuant to a grant from the Research Coordination Unit of the Washington State Commission for Vocational Education. Contractors undertaking such project under the Commission for Vocational Education sponsorship are encouraged to express freely their professional judgement in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent the official Commission for Vocational Education position or policy.

Dr. Mary Burnett, Project Director

Patricia Allenbaugh, Principal Investigator

Seattle Central Community College
1701 Broadway
Seattle, Washington, 98122

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Acknowledgment is given to the following individuals for their contributions to this project:

Ric Apacible
Health & Human Services Counselor
SCCC

Rachael Hidaka
Chairperson
Basic Studies Division
SCCC

Beatrice Kiyohara
Developmental Education, Counselor
SCCC

Zane Kneff
Director, Respiratory Care Program
Spokane Community College

Al Letterer
Clinical Coordinator
Respiratory Technician Program
SCCC

Bill Loeffler
Director, Respiratory Care Program
Tacoma Community College

Alan Mason
Director, Respiratory Care Program
Clark County Community College
Las Vegas, Nevada

Donna McCarter
Coordinator, Nursing Program
Respiratory Therapist
SCCC

Secretaria Staff
Health & Human Services Division
SCCC

Philip Von derHyte
Executive Director
National Board for Respiratory Care

SUMMARY

The focus of this project was the development of an associate degree curriculum in Respiratory Care which would include a developmental pathway for entry of non-traditional students, and also a college level prerequisite entry pathway for the traditional student.

The curriculum content for Respiratory Care Programs is mandated by the Joint Review Committee for Respiratory Care Education(JRCRTE), which also accredits these programs. The curriculum for the developmental entry pathway had the input of numerous individuals experienced and qualified in the area of developmental education.

The result of this project is an associate degree level Respiratory Care curriculum which addresses two current concerns. First, the concern of accessibility and successful completion of the program by non-traditional students and the concern of local health industry's demand for qualified entry level practitioners in Respiratory Care.

This curriculum in Respiratory Care will make a health career at the associate degree level available to a much larger segment of Seattle Central Community College's student population, and on graduation, enable them to complete more effectively in the technical job market of the 1980's

Seattle Central Community College's Respiratory Technician Program Advisory Committee requested we consider up-grading our four quarter certificate program to an associate level therapist program several years ago. Their request was based on a health care industry which has undergone significant change since Seattle Central's Respiratory Technician Program began in 1969. In the 1980's medical science has experienced an explosion, as it were, of technology, which has changed the practice of medicine and surgery significantly. Task analysis in Respiratory Care reveals the bulk of tasks and procedures done today are in the area of critical care and life support, rather than in the routine type of care procedures done in 1969.

The medical industry both locally and nationally now demands an entry level practitioner with the cognitive and clinical skills belonging to the associate degree graduate. No longer can we produce, in four quarters, an individual who performs adequately or can compete successfully in today's health careers job market.

At Seattle Central we recognized that expanding our four quarter Respiratory Technician Program to a seven quarter associate degree therapist program would solve these problems, but at the same time would create other problems. As a large inner-city community college, we have a considerable number of non traditional students. The typical non-traditional student has a minimal or non-existent academic background in the sciences which are the foundation of associate degree level health career curriculums.

Non-traditional students are often discouraged from entering associate degree level health career programs for two major reasons. First they lack the academic background, and secondly, they often lack the time necessary to gain a foundation in the sciences, since many of them are on various financial aid programs which limit vocational training time. The student who wants a health career, but is in this predicament has two choices: (1) enroll in the program and face a very high probability of failure or (2) opt for a three or four quarter certificate program and face a declining job market, lower pay scales and little upward career mobility.

Since our educational philosophy here at Seattle Central is one of equal opportunity for all, our plan was to design an associate degree Respiratory Care curriculum which does not limit opportunity in the health professions to only those students with an adequate science preparation, or the time to get one.

Research, including an ERIC search, was unsuccessful in finding a Respiratory Care curriculum model which would not limit enrollment of the non-traditional student in the ways previously mentioned.

Our project was to develop an associate degree level Respiratory Care curriculum which met the needs of two segments of the community, those of the Puget Sound health care industry and those Seattle Central's student population.

In developing the Respiratory Care core curriculum the following major sources of information were used:

1. JRCRTE'S Essentials for Accrediting Respiratory Care Programs.
2. The National Board for Respiratory Care (NBRC) composite examination matrix for their entry level and advanced practitioner credentialing examinations.
3. Interviews and discussion with the Respiratory Technician Advisory Board and other leaders in Respiratory Care.

The core curriculum content is mandated by JRCRTE and represents the minimum requirements for a CAHEA accredited educational program. Their purpose is to assist in developing a sound learning environment but not limit or impinge on our educational philosophy or autonomy. Given these elements, each school has the prerogative for designing a Respiratory Care curriculum which meets the specific needs of their students and local employment in health care.

Based on the above factors, we developed a curriculum aimed at two goals. First, to prepare AAS degree level Respiratory Therapist to function in the Puget Sound health industry as entry level Respiratory Therapists, and secondly, to prepare graduates for examination and registration by the NBRC.

Using Seattle Central's current Respiratory Technician and Nursing programs as a curriculum model, we have designed a curriculum which moves from the simple to the complex, with each succeeding quarter adding to and building upon the competencies and skill achievements of the previous quarters.

The curriculum plan uses lecture/discussions to present the conceptual knowledge, laboratory experiences which use demonstration/redemonstration techniques, are provided for students to apply the conceptual knowledge.

Students are also placed in clinical settings to refine and expand their ability to transfer conceptual knowledge into that of applied knowledge.

Along with the traditional A-V materials used in allied health education we are incorporating computer assisted instruction modules into both the lecture and laboratory portions of the curriculum. First we will use them in tutorial lessons where the computer presents the student with appropriate new information or reviews information which was previously introduced in theory classes. The second way we will use CAI is in drill and practice where students can practice the necessary information to achieve proficiency. The third way we will use CAI is in simulations which will enable the student to experience pre-clinical situations in the controlled environment of the laboratory.

Knowing that securing employment is the real goal of students enrolled in our Respiratory Care program, we have designed a seventh quarter class which addresses job placement. It is designed to help the student become aware of those personal attitudes and behaviors which are in demand by today's employer. It will also give the student an opportunity to develop and polish personal communication skills which enhance their confidence and competence (see page 59).

Just as with our the current certificate Respiratory Technician Program, instruction must come from faculty who have extensive experience in the field and who maintain an active close relationship with the profession. This is achieved through memberships in professional organizations, liaison with SCCC Respiratory Care Advisory Committee and part time work in the field.

In developing the associate degree level curriculum, Seattle Central's Nursing Program was used as a model for choosing the prerequisites which are, English 101, Biology 140 (Human Anatomy) and Psychology 110 (General Psychology). This decision was based on the fact that similar entry level skills in reading, math and science are required for success in either allied health program.

Development of the entry pathway for non-traditional students presented the greatest challenge of this curriculum project. It was relatively easy to identify which sciences were the foundation for the Respiratory Care curriculum as they are identical in scope, but not in depth for both a certificate or AAS degree program. As the project progressed, it became evident, that core science courses are essentially the same for all allied health programs at Seattle Central. The sciences

identified as the foundations of our allied health programs are:

1. Human anatomy and physiology
2. Microbiology
3. Chemistry
4. Physics
5. Mathematics (through algebra)

Further research and discussion with allied health professionals identified the fact that the newly enrolled allied health student is expected to learn a whole new language, Medical Terminology, in a very short period of time. Acquisition of a medical vocabulary is a necessary competency for student success in the Respiratory Care curriculum.

With our developmental scope clearly in mind, the next issue was to identify students who were discouraged from entering an allied health program because of inadequate academic backgrounds, and those students who are eligible, plan to enter the program but have a high probability of not succeeding, based on our extensive ongoing experience with attrition and the non-traditional student.

At Seattle Central we do not use factoring systems to choose students for entry into the allied health programs. Reading and math testing, in addition to prerequisite classes are the only requirements for admission. Students are accepted on a first come, first served basis for each program.

In this project we identified three reading level scores and two math level scores which are already in use at Seattle Central for identification of students in need of general developmental classes. Students, based on math and reading scores, could enter the program at three levels.

A major decision was made at this point in the project to develop a developmental pathway in such a manner that all students at Seattle Central who were interested in an allied health career would have access to a pre-allied health preparatory curriculum in science, math, medical terminology and exploration of careers in allied health.

This decision had the advantage of serving over 175 students per year rather than the 30-40 students in the Respiratory Program. This also is more cost effective and allows the College

to offer the developmental curriculum quarterly.

Entry into Seattle Central's allied health career programs would have three levels for students:

1. Entry level I would be for those interested students with a CGP reading score between 36-41 and a math score of 56 or below.
2. Entry level II would be for interested students with a CGP reading score between 42-48 and a math score of 56 or below.
3. Entry level III would be for interested students with a CGP reading score of 49 or above and a math score of 57 or above. These students are ready to enter directly into the prerequisite classes. (See page 13).

Developmental Health Science I and II will be similar in content but build on basic science knowledge and skill from level I to level II. Level I class content will be at the 8-9th grade level. Level II class content will be at the 11-12th grade level. The same model will be used for the other Allied Health Developmental classes (those with AHE designations), (see page 11).

This program of Allied Health Developmental classes will allow students an entry level pathway consistent with their academic background and/or current level of reading and math skills. It allows a certain tailoring to the individual's level rather than a rigid pathway. We feel that a certain number of students who technically can enter directly into the prerequisite classes, will opt for level II classes for purposes of brushing up their 'rusty' skills, thereby increasing their probability of success once they do enter a specific health program.

The expansion of the Respiratory Care Program to a seven quarter AAS degree will be presented to the Health & Human Services Division Chairperson and Administration for approval. Winter quarter 1985 appropriate procedures will be followed for Seattle Community College District approval of the program expansion and curriculum.

JRCRTE accreditation of the expanded program will also be initiated winter quarter 1985.

ALLIED HEALTH DEVELOPMENTAL CLASSES

Level II

AHE 010	Health Sciences I	(3)
AHE 012	Medical Terminology	(1)
AHE 014	Intro to Health Professions	(3)
Mat 090	Basic Math Skills	
Mat 092	" " "	
Eng 071, or 075, or 085		

Level II

AHE 020	Health Sciences II	(3)
AHE 022	Medical Terminology	(1)
AHE 024	Intro to Health Professions	(3)
Mat 093	Algebra	
Mat 094	"	
Eng 090, or 092		

WHAT IS RESPIRATORY CARE?

Respiratory Therapy is a dynamic and rewarding Allied Health specialty involved in the treatment and management of patients with cardiopulmonary disorders. This includes the therapeutic use of medical gases, medications, aerosols, lung drainage, ventilatory support, cardiopulmonary resuscitation, airway management, respiratory disease management and diagnostic testing.

Under the direction of the physician the Respiratory Therapist works with other health care professionals to deliver effective and comprehensive health care.

CAREER OPPORTUNITIES

Job opportunities are good in every area of the country. Employment can be found in hospitals, medical clinics, research, home care, rehabilitation, and education. A recent Respiratory Care trade journal had seven full pages of want ads seeking formally trained Respiratory Care Practitioners. Respiratory Therapy is a career with professional opportunities and job mobility.

PROGRAM DESCRIPTION

Seattle Central Community College's seven quarter A.A.S. degree program in Respiratory Care prepares the graduate for entry into the respiratory care workforce and for the Registry level credentialing examination administered by the National Board for Respiratory Care (N.B.R.C.).

This program is an equal opportunity program that is designed for three types of individuals:

1. Persons who have had some or many pre-professional science classes or those who already hold A.S., A.A., B.S., or B.A. degrees in other areas.
2. Graduates of accredited Respiratory technician programs who wish to move up the career ladder by becoming eligible to take the N.B.R.C.'s Registry Exam.
3. Persons who have neither of the above and are interested in entering the field of health care.

Persons in group one will take any of the prerequisite classes not previously completed and upon acceptance be admitted into the first quarter.

Those in the second group will complete the prerequisites, take a comprehensive placement examination and, based on their score and acceptance in the program, will be admitted into the fourth or fifth quarter.

Those in the third group who must be high school graduates or those with a GED equivalent in the United States, will take an Allied Health Math Test or Algebra Coop Test and the CGP Reading Test.

1. Those scoring 49 and above in reading and 57 and above in math will proceed directly into the prerequisite classes.
2. Those scoring 42-48 in reading and under 57 in math may enroll in the Allied Health Preparation Level II classes, and upon completion of these enroll in the prerequisites.
3. Those scoring 36-41 in reading and under 57 in math may enroll in the Allied Health Preparation Level I classes and upon completion of these, enroll in the required prerequisites.

PREREQUISITES: The required prerequisites to enter the Respiratory Care program are: BIO-140, ENG-101, and PSY-101

PROCEDURE FOR ADMISSION

1. Submit an application for admission to the College at the Admissions Office, BE 1105, (phone 587-5450).
2. Submit your high school and college transcripts.
3. Arrange to take the required tests in the Testing Office, BE 1108 (phone 587-6913).
4. After matriculation, contact the Health & Human Services Division Counselor's Office for an appointment interview to determine your entry pathway into the program. Call 587-4186.
5. Upon proof of your completion of all prerequisite classes, the Counselor will refer applicants for an interview with a Respiratory Care faculty advisor.
6. After the interview with a Respiratory Care faculty advisor, your name will be added to the Approved Waiting List on a first-come, first-served basis.

THOSE APPLICANTS HAVING CREDITS TO TRANSFER INTO THE RESPIRATORY CARE PROGRAM MUST APPLY FOR CREDIT BY DIRECT TRANSFER WITH THE RECORDS EVALUATOR, BE-1104 IT IS YOUR RESPONSIBILITY TO MAKE SURE THE COLLEGE HAS YOUR TRANSCRIPTS AND ACCEPTS THE CREDIT.

CURRICULUM

First Quarter (Fall)

BIO-142	Human Physiology	(5)
RTT-110	Introduction to Respiratory Care	(1)
RTT-112	Cardiopulmonary Physiology	(5)
RTT-114	Respiratory Care Fundamentals I	(5)

Second Quarter (Winter)

CHE-101	General Chemistry	(5)
RTT-120	Clinical Practice	(8)
RTT-122	Diseases of the Chest	(4)
RTT-124	Respiratory Care Fundamentals II	(3)

Third Quarter (Spring)

ENG-105	Technical Composition*	(5)
RTT-130	Clinical Practice	(8)
RTT-132	Pharmacology of Respiratory Care	(2)
RTT-134	Respiratory Care Fundamentals III	(4)

Forth Quarter (Fall)

BIO-145	Microbiology*	(4)
RTT-240	Clinical Practice	(8)
RTT-242	Respiratory Care of Critically Ill Adults	(3)
RTT-244	Respiratory Care Fundamentals IV	(4)

Fifth Quarter (Winter)

CSC-101	Intro to Computer Use	(2)
RTT-250	Clinical Practice	(8)
RTT-252	Respiratory Care of Infants & Children	(2)
RTT-254	Respiratory Care Fundamentals V	(4)

Sixth Quarter (Spring)

RTT-260	Clinical Practice	(8)
RTT-262	Respiratory Care of the Chronically Ill	(1)
RTT-264	Respiratory Care Fundamentals VI	(3)

Seventh Quarter (Summer)

RTT-270	Clinical Practice	(6)
RTT-272	Employment Aspects of Respiratory Care	(2)
RTT-274	Respiratory Care Fundamentals VII	(2)

PLEASE NOTE: Successful completion and eligibility for graduation from the Associate Degree Respiratory Care Program requires that the student must have a "C" or better grade in all respiratory care courses in addition to BIO-140,142,145;CHE101.

<u>TRAINING COSTS</u> (Subject to Change)	Cost/Quarter	Cost/Total
Tuition (Resident)	\$186.50	\$1,305.50
" (Non-Resident)	\$754.50	\$5281.50
Supplies, Equipment, Books		\$500.00
Uniform, Watch,		\$75.00

A physical and immunization record using the SCCC form is to be on file in the Division Office by the first week of clinical practice.

FOR FURTHER INFORMATION

Health and Human Services Division	Telephone:	587-4161
Seattle Central Community College	Room	2BE 3210
1701 Broadway		
Seattle, Wa. 98122		

*Students planning to transfer to a four year college or university should discuss these classes with the counselor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Introduction to Respiratory Therapy

COURSE NUMBER: RTT 110

CREDITS: 1.0

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce the profession of Respiratory Therapy to the student. The focus is on the historical development as well as a current overview of the profession. It provides an understanding of the current role of Respiratory Therapists in the health field.

OVERALL COURSE OBJECTIVES: Upon completion of this course the student will be able to:

1. Recount the historical events leading to the formation of the A.A.R.T., N.B.R.C., J.R.C.R.T.E. and R.T.F.
2. Summarize the roles and functions of the professional organizations and governmental agencies which affect the respiratory therapist.
3. Contrast and compare ethical and legal concepts which affect the health care worker.
4. Form a concept of the organization, structure and function of a typical respiratory therapy department.

LENGTH OF COURSE: One Quarter

CLASS SIZE: 30 students

PREREQUISITES: Acceptance into the Respiratory Therapy program and completion of ENG 101, BIO 140 and PSY 110. Concurrent enrollment in RTT 112 and RTT 114.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

SUPPLEMENTAL TEXTS: None

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

(continued)

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 0.5

- Unit 1. Historical Events in the Development of Respiratory Therapy as a Profession.
- A. A.A.R.T.
 - B. N.B.R.C.
 - C. J.R.C.R.T.E.
 - D. N.R.F.
- Unit 2. Current View of Respiratory Therapy
- A. Credentialing and licensing
 - B. Professional and educational organizations and publications
 - C. Federal and state governmental involvement in health care
- Unit 3. Legal and Ethical Aspects of Health Care
- A. Ethics related to Respiratory Therapy
 - B. Legal concepts in health care
 - C. Professional relationships
- Unit 4. Respiratory Therapy Departments
- A. Departmental organization and structure
 - B. R.T. personnel and their roles
 - C. Departmental operation

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Cardiopulmonary Physiology

COURSE NUMBER: RTT 112

CREDITS: 5

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to study in depth, the functional characteristics of the human cardiopulmonary system and the standard methods used to measure the pulmonary component function. It will include respiratory therapy laboratory practice which will prepare the student to perform basic pulmonary function tests in the clinical setting.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Describe the principal structures of the cardiopulmonary system and relate them to their function.
2. Discuss the components of ventilation and the methods of evaluating its effectiveness.
3. Discuss the principals involved in the maintenance of adequate cardiovascular function.
4. Explain how the cardiovascular and pulmonary systems function as a unit to achieve internal and external respiration.
5. Demonstrate an understanding of the rationale for and the techniques and equipment used in pulmonary function testing. Perform and calculate basic spirometry tests in the respiratory therapy laboratory setting.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Acceptance into the Respiratory Therapy program and completion of ENG 101, BIO 140 and PSY 110. Concurrent enrollment in RTT 110 and RTT 114.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
McPherson. Respiratory Therapy Equipment. 3rd Ed.,
C.V. Mosby.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

(continued)

Course Outline

RTT 112

Page 2

SUPPLEMENTAL TEXTS: West. Respiratory Physiology. 3rd Edition, Williams and Wilkins.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 3 LAB: 4

Unit 1. Review of Cardiopulmonary Structure

- A. Development
- B. Overall structure and relationship to other body structures
- C. Airways and mucosa
- D. Parenchyma and gas exchange tissue
- E. Structures of ventilation

Unit 2. The Process of Ventilation

- A. Physics of ventilation
- B. Pulmonary mechanics
- C. Resistances to ventilation
- D. Control of ventilation

Unit 3. Physiology of Circulation and Perfusion

- A. Myocardial function
- B. Systemic vs. pulmonary blood flow
- C. Venous return
- D. Perfusion

Unit 4. Process of Respiration

- A. Ventilation perfusion relationship
- B. Distribution of pulmonary perfusion and ventilation
- C. Dead space and shunt effects

Unit 5. Pulmonary Function Testing

- A. Testing overview
- B. Lung volume and capacity tests
- C. Air flow tests
- D. Clinical test procedures and equipment
- E. Laboratory exercises in volume and flow tests

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals I

COURSE NUMBER: RTT 114

CREDITS: 4.0

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce the concepts and knowledge of respiratory therapy procedures used to assess and treat people with common respiratory diseases. The emphasis is placed on developing the skills necessary to safely and effectively apply medical gas and aerosol therapy.

OVERALL COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Describe the knowledge and demonstrate the skills necessary to deliver safe and effective medical gas therapy.
2. Relate the knowledge and demonstrate the basic patient care skills needed to treat patients confined to hospital beds and wheelchairs, and the proper method of reporting and recording respiratory therapy.
3. Describe the knowledge and demonstrate the skills necessary to safely and effectively deliver basic hyperinflation therapy.
4. Discuss the knowledge and demonstrate the skills needed to use humidity and aerosol therapy in the treatment of mucokinesis disorders.
5. List the components of and demonstrate the skills used to clinically assess basic cardiopulmonary function.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Acceptance into the Respiratory Therapy program and completion of ENG 101, BIO 140 and PSY 110. Concurrent enrollment in RTT 110 and RTT 112.

REQUIRED TEXTS: Burton, et al. Respiratory Care. Lippincott.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.
McPherson. Respiratory Therapy Equipment. 2nd Ed., C.V. Mosby.
Shapiro. Clinical Application of Respiratory Care. 2nd Ed.,
Yearbook Medical Publishers.

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

SUPPLEMENTAL

TEXTS: Rau. Understanding Chest Radiographs. Multi Media Publisher.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 2 LAB: 4

Unit 1. Medical Gases

- A. Gas physics
- B. Medical gas manufacture, storage and distribution
- C. Medical gas storage and delivery systems
- D. Medical gas administration equipment and techniques
- E. Medical gas monitoring methods and devices

Unit 2. Basic Patient Care Techniques

- A. Hospital environment
- B. Body mechanics
- C. Moving and lifting patients
- D. Medical reporting and record keeping

Unit 3. Basic Hyperinflation Therapy

- A. Rationale
- B. Equipment
- C. Techniques and skills of application
- D. Evaluation methods

Unit 4. Humidity and Aerosol Therapy

- A. Physics related to humidity and aerosols
- B. Disturbances in mucokinesis and the rationale for treatment
- C. Equipment
- D. Techniques and skills of application
- E. Evaluation methods

Unit 5. Basic Bedside Cardiopulmonary Assessment

- A. Auscultation and percussion of the chest
- B. Systemic blood pressure
- C. Adequacy of ventilation tests
- D. Basic normal chest x-ray

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Clinical Practice I

COURSE NUMBER: RTT 120

CREDITS: 8

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to provide the student with an understanding of the organization and function of an acute care hospital and a typical respiratory therapy department. The student will also develop the skills necessary to safely and effectively apply specific modes of therapy learned in RTT 114 to those patients with common respiratory disorders.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Develop the skills necessary to effectively and safely administer oxygen therapy and how to evaluate the efficacy of therapy.
2. Evaluate the components of and demonstrate the skills needed to adequately assess a patient's cardiopulmonary function.
3. Demonstrate the knowledge and skills necessary to safely and effectively administer humidity/aerosol therapy.
4. Explain the rationale and demonstrate the necessary skills required to perform sustained maximal inspiration therapy.
5. Demonstrate a knowledge of how a respiratory therapy department, their personnel, authority, and responsibilities function.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students (3 sections)

PREREQUISITES: Successful completion of previous quarter and concurrent enrollment in RTT 122 and RTT 124.

REQUIRED TEXTS: Shoup. Laboratory Exercises in Respiratory Therapy.
2nd Ed., C.V. Mosby.

SUPPLEMENTAL TEXTS: Lough. Handbook of Respiratory Care. 1st Ed., Yearbook
Medical.

(continued)

ADDITIONAL Film strips, tapes and articles pertinent to the subject matter
REFERENCES: will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

Unit 1. Oxygen Therapy

- A. Indications
- B. Hazards
- C. Physiologic effects of hypoxemia
- D. Classifications of hypoxia
- E. Regulation of gas flow
 - 1. regulators
 - 2. flowmeters
- F. O₂ delivery devices
 - 1. high - flow
 - a. venti-masks
 - b. mechanical aerosol systems
 - c. cascade type humidifier system
 - 2. low - flow
 - a. cannula
 - b. simple mask
 - c. partial rebreather vs non rebreather bag
- G. Measuring FiO₂
 - 1. analyzers
- H. Equipment needed
- I. Monitoring techniques

Unit 2. Cardiopulmonary Assessment

- A. History
- B. Physical exam
 - 1. accessory muscle use
 - 2. percussion and palpation
 - 3. auscultation
- C. Lab data
 - 1. CBC
 - 2. sputum culture
 - 3. ABG
- D. CXR interpretation
 - 1. normal vs abnormal
- E. PFT

Unit 3. Humidity/Aerosol Therapy

- A. Basic terms
 - 1. stability, penetration, deposition
- B. Ventilatory pattern desired
- C. Goals and indications
- D. Hazards
- E. Aerosol generators
- F. Bernoulli vs. USN similarities and differences
- G. Necessary equipment
- H. Administration techniques

(continued)

Unit 4. Incentive Spirometry

- A. Indications
- B. Clinical goals
- C. Available devices
- D. Administration techniques

Unit 5. Respiratory Therapy Department Function

- A. Structure
- B. Chain of command
- C. Therapeutic responsibilities
- D. Organization

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Diseases of the Chest

COURSE NUMBER: RTT 122

CREDITS: 4

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is a study of the concepts and principals by which disease alters the normal function of the cardiopulmonary system. The main emphasis will be on how homeostasis of the body is disrupted, clinical signs and symptoms, methods of evaluating the extent of the disruption while relating the respiratory therapy which maintains or restores normal function.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Explain the basic concepts and principles of health and disease.
2. Relate the specific process which alters the normal function of the cardiopulmonary system.
3. Identify and explain the methods used to assess the adequate functioning of the cardiopulmonary system.
4. Describe the alterations in normal acid-base status which are the cause/effect of cardiopulmonary disorders.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Completion of RTT 110, RTT 112 and RTT 114; concurrent enrollment in RTT 120 and RTT 124.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Spearman. Egan's Fundamentals of Respiratory Therapy.

SUPPLEMENTAL TEXTS: Cole. Essentials of Respiratory Disease. 3rd Ed.,
J.P. Lippincott

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T

DATE: October 1984

Course Outline

RTT 122

Page 2

TOPICAL OUTLINE AND MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 3 LAB: 2

Unit 1. Basic Disease Processes

- A. Autoimmune system
- B. Inflammatory response
- C. Acute vs. chronic processes

Unit 2. Clinical Cardiopulmonary Pathology

- A. Processes related to hypoxia
- B. Processes related to airway obstruction
- C. Processes related to pulmonary distention
- D. Processes related to pulmonary restriction
- E. Ventilation perfusion imbalance

Unit 3. Clinical Assessment of the Cardiopulmonary Pathology

- A. Review fundamental anatomy and physiology
- B. Dysfunctioning myocardium
- C. Disturbances of circulation
- D. Congenital anomalies

Unit 4. Acid-Base Balance

- A. Parameters determining acid-base balance
- B. Mechanisms that regulate acid-base balance
- C. Acidosis and alkalosis
- D. Clinical measurement techniques

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals II

COURSE NUMBER: RTT 124

CREDITS: 3

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to build upon the knowledge, concepts and skills acquired in RTT 114. Emphasis will be on the knowledge and skills required to safely and effectively care for patients with artificial airways and those with impaired bronchial hygiene. Students will also learn to apply the basic concepts of asepsis to respiratory therapy equipment in order to prevent the spread of infection and disease.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Relate and discuss the loss of airway patency, the techniques used to assess its presence and magnitude and demonstrate the skills, devices and techniques used to restore and maintain airway patency.
2. List and describe the body's normal mechanisms of bronchial hygiene, how alterations from the normal state are assessed, and demonstrate the skill of bronchopulmonary drainage techniques to maintain or restore normal function.
3. Contrast and compare medical asepsis and disinfection techniques and apply these principles to the clinical use of respiratory therapy equipment in the prevention and control of infection.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110, 112, 114.
Concurrent enrollment in RTT 120 and RTT 122.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott
Egan. Fundamentals of Respiratory Therapy. 4th Ed., Mosby.
McPherson. Respiratory Therapy Equipment. 2nd Ed., Mosby.
Shapiro. Clinical Application of Respiratory Therapy.
2nd Ed., Yearbook Pub.

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

ADDITIONAL Film strips, tapes and articles pertinent to the subject matter
REFERENCES will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS/WK:
LECTURE: 1.5 LAB: 1.5

Unit 1. Principles and Practice of Airway Management

- A. Mechanisms of and clinical manifestations of airway patency loss
- B. Oral and nasal airways
- C. Endotracheal airways
- D. Suctioning equipment and techniques
- E. General considerations

Unit 2. Principles and Practice of Bronchial Hygiene Therapy

- A. Retained secretions
- B. Segmental drainage techniques
- C. Percussion techniques
- D. Breathing exercises
- E. Techniques to augment a cough

Unit 3. R.T. Equipment Infection Control Concepts and Techniques

- A. Review pathogenicity and epidemiologic considerations
- B. Collection and handling of pulmonary secretions for diagnosis
- C. Principles for controlling the spread of infection
- D. Care of respiratory therapy equipment in the hospital and the home
- E. Quality control systems

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Clinical Practice II

COURSE NUMBER: RTT 130

CREDITS: 8

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is a continuation of RTT 120 with major emphasis on sterilization techniques, managing patients with artificial airways, and performing chest percussion and bronchial drainage.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Describe the various sterilization methods used and demonstrate the skills needed to disassemble, clean, reassemble and package, and sterilize patient care equipment.
2. Demonstrate the skills necessary to safely and effectively cleanse and dress a tracheostomy wound and stoma.
3. Describe the complications and demonstrate the skills and techniques needed to safely and effectively suction secretions from a patient's artificial airway.
4. Describe the various bronchial drainage positions and demonstrate the necessary skills and techniques needed to safely and effectively perform chest percussion and bronchial drainage.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students (3 sections)

PREREQUISITES: Successful completion of previous quarter and concurrent enrollment in RTT 132 and RTT 134.

REQUIRED TEXTS: McLaughlin. Manual of Infection Control in Respiratory Care. 1st Ed., Little, Brown and Co.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

(continued)

OUTLINE DEVELOPED BY: Patricia Allenbaugh, R.R.T.

DATE: October 1984

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

Unit 1. Disinfection and Sterilization

- A. Definitions
- B. Preparation for sterilization
- C. Sterilization by heat
 - 1. autoclaving
 - 2. pasteurization
- D. Ethylene oxide sterilization
 - 1. characteristics
 - 2. mechanism of action
- E. Gamma irradiation
- F. Liquid disinfectants
 - 1. glutaraldehyde
 - a) cidex
 - b) sonacide

Unit 2. Trach Care

- A. Advantages over endotracheal airways
- B. Problems
 - 1. Immediate complications
 - 2. Late complications
- C. Changing frequency and technique
- D. Cleansing and dressing technique
- E. Humidification of trach tubes

Unit 3. Suctioning

- A. Complications
- B. Requisites of suction catheters
- C. Suctioning techniques

Unit 4. Chest Physiotherapy and Postural Drainage

- A. Indications
- B. Precautions
- C. Standard bronchial drainage positions
- D. Percussion
 - 1) technique
 - 2) precaution
- E. Vibration
 - 1) techniques
- F. Breathing retraining
 - 1) purpose
 - 2) goals
 - 3) specific techniques
- G. Cough instruction
 - 1) anatomy of normal cough
 - 2) technique
 - 3) "Huff" cough

(continued)

EVALUATION METHOD:

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING:

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Therapy Pharmacology

COURSE NUMBER: RTT 132

CREDITS: 2

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course provides the student with the basic concepts and knowledge necessary to safely administer the drugs used in the practice of respiratory therapy. While the emphasis is on the drugs used to treat primary respiratory disorders, an overview of pharmacy as a science and the most commonly encountered drugs used in critical care settings is included.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. List and discuss the basic concepts of drug sources, actions, indications for therapy as well as contraindications, adverse side effects, their remedy and therapeutic dose ranges.
2. Identify the indications for use, their actions and interactions and contraindications of the sedative, hypnotic, cardiovascular, endocrine and chemotherapeutic drugs most often encountered in the care of the critically ill patient.
3. Relate and describe the mechanisms of bronchospasm and mucus retention along with the drugs used to treat these disorders.
4. Demonstrate the ability to calculate precise respiratory drug doses, solution strengths and the correct techniques of administration.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 111, 112, 114, 120, 122, 124.
Concurrent enrollment in RTT 130 and 134.

REQUIRED TEXTS: Rau. Respiratory Therapy Pharmacology. 2nd Ed., YearBook Medical Publishers.

SUPPLEMENTAL TEXTS: Zimmet. Respiratory Therapy Pharmacology and Therapeutics. W.B. Saunders.

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OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS
LECTURE: 23 LAB: 1

Unit 1. Basic Concepts of Pharmacology

- A. History of pharmacology
- B. Drug legislation and governmental standards
- C. Drug sources
- D. Bioactivity of drugs

Unit 2. Drugs Related to Respiratory Care

- A. CNS
- B. Cardiovascular drugs
- C. Endocrine and chemotherapeutics
- D. Sporicifids, analgesia and anesthesia

Unit 3. Mucolytics and Bronchodilators

- A. Mucus retention
- B. Mucolytics
- C. Mechanisms of bronchospasm
- D. Drugs used to treat bronchospasm

Unit 4. Drug Administration

- A. Math used in pharmacology
- B. Dose calculations
- C. Solution preparation
- D. Administration techniques and practice

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals III

COURSE NUMBER: RTT 134

CREDITS: 3

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course continues to build upon the knowledge, concepts and the skills introduced in RTT 114 and RTT 124. This course places its focus on an introduction to the techniques, skills and equipment used in basic mechanical ventilation. It includes the foundation necessary to understand mechanical ventilators and the opportunity to develop the skills required for the safe effective administration of IPPB therapy.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Discuss a systematic description of ventilator designs that will apply to currently available, as well as future mechanical ventilators, including functional details of specific ventilators.
2. Relate the specific functional characteristics, construction styles and demonstrate the knowledge and skills to effectively operate the Bird Mk series and Bennett PR series pressure cycles ventilators.
3. List and discuss the concepts, principles and demonstrate the skills necessary to safely and effectively give IPPB therapy with pressure cycles ventilators.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110, 112, 114, 120, 122, 124.
Concurrent enrollment in RTT 130 and 132.REQUIRED TEXTS: Burton, et al. Respiratory Care. J.P. Lippincott.
McPherson. Respiratory Therapy Equipment. 2nd Ed., Mosby.
Shapiro. Clinical Application of Respiratory Care. 2nd Ed.,
Yearbook Medical Publishers.
Shoup. Lab Exercises in Respiratory Therapy. C.V. Mosby.SUPPLEMENTAL TEXTS: Clark. Pressure Cycled Ventilators. Prentice-Hall.

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OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 2 LAB: 2

Unit 1. Introduction to Mechanical Ventilators

- A. Nomenclature of classification
- B. Negative pressure ventilators
- C. Positive pressure ventilators
- D. High frequency jet ventilators
- E. Ventilatory modifications

Unit 2. Pressure Cycled Ventilators

- A. Design features
- B. Bird Mk series ventilators
- C. Bennett PR series ventilators
- D. Patient circuits

Unit 3. IPPB Therapy

- A. Indications and physiological effects
- B. Clinical goals
- C. Administration criteria and techniques
- D. Evaluation techniques

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Clinical Practice III

COURSE NUMBER: RTT 240

CREDITS: 8

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is a continuation of RTT 130 with emphasis on managing patients with artificial airways and administering intermittent positive pressure breathing (IPPB) treatments to patients with various respiratory disorders.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Describe the various types of artificial airways used, their indications and demonstrate the skills necessary to safely and effectively manage a patient with an artificial airway.
2. Describe the physiologic effects, indications, and hazards of and demonstrate the skills and techniques necessary to safely and effectively apply IPPB therapy.
3. Demonstrate the skills necessary to assure the optimum performance of a ventilator.
4. Develop the beginning skill of using observations and test values to recognize respiratory failure.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students (3 sections)

PREREQUISITES: Successful completion of previous quarter and concurrent enrollment in RTT 242 and RTT 244.

REQUIRED TEXTS: Clark. Pressure Cycled Ventilators. 1st Ed., Prentice-Hall.
Shoup. Laboratory Exercises in Respiratory Care. 2nd Ed.,
C.V. Mosby.

(continued)

OUTLINE DEVELOPED BY: Patricia Allenbaugh, R.R.T.

DATE: October 1984

SUPPLEMENTAL Nelson. Critical Care Respiratory Therapy. 1st Edition,
TEXTS: Little and Brown.

ADDITIONAL Film strips, tapes and articles pertinent to the subject matter
REFERENCES: will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

Unit 1. Airway Care

- A. Indications
- B. General classification of artificial airways
 - 1) oral airways
 - 2) nasal airways
 - 3) oral vs nasal ETT
 - 4) esophageal airway
 - 5) fenestrated trach tube
 - a. purpose
 - 6) trach button
- C. Airway cuffs
 - 1) purpose
 - 2) hazards of excessive pressure
 - 3) MOV
 - a. technique and frequency
 - 4) cuff deflation technique
- D. Oral ETT care
 - 1) mouth care technique and purpose
 - 2) bite block making technique and purpose
 - 3) tube securing technique
- E. Nasal ETT care
 - 1) tube securing techniques
 - 2) hazards
- F. Oral ETT
 - 1) advantages vs disadvantages
- G. Nasal ETT
 - 1) advantages vs disadvantages

Unit 2. IPPB Therapy

- A. Physiologic effects on respiratory system
- B. Indications
- C. Goals
- D. Hazards and contraindications
- E. Administration technique

Unit 3. Ventilator Optimum Performance Check

- A. Equipment needed
- B. Assembling ventilator circuit
- C. Testing for leaks in the system
- D. Checking exhaled tidal volumes
- E. Testing alarms

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Unit 4. Recognizing Respiratory Failures

- A. ABG
- B. Assessing mechanical WOB
 - 1) VC
 - 2) NIF
 - 3) VE
 - 4) accessory muscle use
- C. Clinical signs and symptoms
- D. Chest X-Ray

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services
CURRICULUM: Respiratory Therapy
COURSE TITLE: Respiratory Care in Adult Critical Illnesses
COURSE NUMBER: RTT 242 CREDITS: 3
TYPE OF COURSE: Occupational Preparatory
COURSE DESCRIPTION:

This course builds upon the concepts and skills offered in previous courses to enable the student to care for adults who are critically ill with more complex cardiopulmonary disorders. The focus will be on diagnosis of acute respiratory failure, mechanical ventilation and hemodynamic monitoring.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Define and discuss the methods and techniques of recognizing and evaluating patients at special risk of developing acute respiratory failure and the indications for continuous mechanical ventilation.
2. Relate the knowledge and procedures to safely and effectively institute, monitor and trouble-shoot, and wean patients on Continuous Mechanical Ventilators and Continuous Positive Airway Pressure.
3. Relate and discuss the special respiratory care considerations involved with care of the medical and post surgical patient.
4. Define and discuss the concepts and procedures of cardiovascular monitoring and support.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 134.
Concurrent enrollment in RTT 240 and RTT 244.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Martz. Management of the Patient Ventilator System.
C.V. Mosby.
Shapiro. Clinical Application of Respiratory Care. 2nd Ed.,
Yearbook Medical Publishers.
Shoup. Lab Exercises in Respiratory Therapy. C.V. Mosby.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

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SUPPLEMENTAL Armstrong. Hemodynamic Monitoring in the Critically Ill.
TEXTS: J.P. Lippincott.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 3

Unit 1. Clinical Assessment of Acute Respiratory Failure

- A. Defining acute respiratory failure
- B. Assessment of cardiopulmonary reserve
- C. Indications for CPAP and CMV

Unit 2. Creating the Patient-Ventilator System

- A. Selection and preparation of ventilators
- B. Ventilator settings
- C. Managing the patient-ventilator system
- D. Weaning procedures

Unit 3. Problems Unique to the Delivery of Respiratory Care

- A. Airway and parenchymal disorders
- B. Neurological/neurosurgical disorders
- C. ARDS (Adult Respiratory Distress Syndrome)
- D. Traumatic disorders

Unit 4. Hemodynamic Monitoring and Support

- A. Review physiology of circulation and perfusion
- B. Clinical assessment of venous return
- C. Assessment of shunts
- D. Assessment of O₂ consumption and cardiac output

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals IV

COURSE NUMBER: RTT 244

CREDITS: 4

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to build upon the concepts, knowledge and skills taught in RTT 114, RTT 124 and RTT 134. The emphasis of this course will be on advanced concepts and skills needed to care for critically ill adult patients. Included will be opportunities to practice the skills of safely and effectively establishing and maintaining the patient-ventilator system and advanced life support techniques.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Relate specific functional characteristics and construction styles of volume ventilators currently used in the greater Seattle area, and demonstrate the skills to effectively operate volume ventilators.
2. Define and discuss the concepts and skills of cardiopulmonary resuscitation in the critical care setting in addition to demonstrating the skills needed to effectively function on a CPR team.
3. List and explain the considerations and equipment necessary to safely and effectively transport the critically ill and life-threatened patient.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110, 112, 114, 120, 124, 130, 132, 134; concurrent enrollment in RTT 240 and 242.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Martz. Management of the Patient Ventilator System.
C.V. Mosby.
McPherson. Respiratory Therapy Equipment. 3rd Ed.,
C.V. Mosby.
Shapiro. Clinical Application of Respiratory Care. 2nd Ed.,
Yearbook Medical Publishers.
Shoup. Lab Exercises in Respiratory Therapy. C.V. Mosby.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

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SUPPLEMENTAL

TEXTS: Ellis. Cardiopulmonary Resuscitation. C.V. Mosby.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS
LECTURE: 2 LAB: 4

Unit 1. Volume Ventilators

- A. Classification, controls and characteristics
- B. Bennett, Bournes, Monaghan and Siemens ventilators
- C. Ventilator readiness and application
- D. Circuit maintenance and changes

Unit 2. Advanced Life Support

- A. Defibrillation, cardioversion, pacemakers
- B. Drug and fluid therapy
- C. Evaluation of effectiveness and discontinuance of life support

Unit 3. Transport of the Critically Ill Patient

- A. Airway considerations
- B. Oxygenation and ventilation considerations
- C. Cardiovascular and hemodynamic considerations

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Clinical Practice IV

COURSE NUMBER: RTT 250

CREDITS: 8

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to provide the student with the knowledge, skills and techniques necessary to safely and effectively treat those newborn infants and children suffering from various cardiopulmonary disorders.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Describe, recognize and demonstrate the skills needed to safely and effectively treat those patients suffering from neonatal and pediatric respiratory disorders.
2. Demonstrate the skills necessary to safely and effectively perform various pediatric therapeutic procedures.
3. Describe the various mechanical ventilators used on the newborn infant and list their advantages and disadvantages.
4. Demonstrate the skills necessary to safely and effectively commit and manage a newborn infant on a mechanical ventilator.
5. Demonstrate the skills necessary to set up 2 different CPAP systems.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students (3 sections)

PREREQUISITES: Successful completion of previous quarter with concurrent enrollment in RTT 253 and RTT 254.

REQUIRED TEXTS: Hirnle. Clinical Simulations in Neonatal Respiratory Therapy. Wiley Medical.

SUPPLEMENTAL TEXTS: Lough. Pediatric Respiratory Therapy. 2nd Edition, Yearbook Medical Publishers.

(continued)

OUTLINE DEVELOPED BY: Patricia Allenbaugh, R.R.T. DATE: October 1984

ADDITIONAL Film strips, tapes and articles pertinent to the subject
REFERENCES: matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:

Unit 1. Recognizing and Treating Pediatric Respiratory Disorders

- A. IRDS
- B. Croup
- C. Epiglottitis
- D. Meconium aspiration
- E. Bronchopulmonary dysplasia
- F. Congenital anomalies:
 - 1. choanal atresia
 - 2. diaphragmatic hernia
 - 3. laryngeal stridor

Unit 2. Pediatric Therapeutic Procedures

- A. O₂ therapy
 - 1. delivery devices
- B. Aerosol therapy
- C. Resuscitation
- D. Bronchopulmonary hygiene
- E. Hyperinflation therapy
- F. Enclosures

Unit 3. Mechanical Ventilators

- A. Bourns BP-200
- B. Sechrist
- C. Baby Bird
- D. Bourns LS-104
- E. Bourns Bear Cub

Unit 4. Neonatal Ventilator Management

- A. Indications
- B. PEEP
 - 1. indications
 - 2. monitoring techniques
- C. Humidification
- D. Tubing support
- E. Guidelines for ventilator commitment

Unit 5. CPAP

- A. Indications
- B. CPAP systems
- C. Procedure
 - 1. monitoring
 - 2. application
 - a) prerequisites to CPAP
 - b) application of pressure
 - c) weaning
 - 3. flow

(continued)

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Care of Infants and Children

COURSE NUMBER: RTT 252

CREDITS: 2

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce students to the specific ways previously learned respiratory therapy practices are adapted for the treatment of infants and children. The focus of this class is on the ways infants and children anatomically, physiologically and emotionally differ from adults, and those modifications to equipment and therapy techniques needed to effectively treat their cardiopulmonary disorders.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. List and discuss fetal and post natal development of the lung, emphasizing the changes that occur with the onset of air breathing at birth.
2. Relate and discuss the etiology and pathophysiology of neonatal asphyxia, the procedures used to evaluate the neonate and the techniques and equipment used to resuscitate and support life threatened newborns.
3. Contrast and compare the techniques and equipment used to mechanically ventilate the infant with those used to ventilate the adult.
4. Relate and discuss the special needs of the pediatric patient identifying the selection and modification in therapy techniques and equipment to meet these special needs.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 244 and concurrent enrollment in RTT 250 and RTT 254.

REQUIRED TEXTS: Burgess. Respiratory Therapy in Newborn Infants and Children.
Thieme-Stratton Inc.

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

- Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Hirle. Clinical Simulations in Neonatal Respiratory Therapy. Wiley Medical.
McPherson. Respiratory Therapy Equipment. 3rd Ed., C.V. Mosby.
Shapiro. Clinical Application of Respiratory Care. 2nd Ed., Yearbook Medical Publishers.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 22

Unit 1. Cardiopulmonary Anatomy and Physiology of the Fetus and Neonate

- A. Review lung embryology
- B. Fetal circulation
- C. Neonatal adaptation to extrauterine life

Unit 2. Recognition and Care of the High Risk Newborn

- A. Common birth anomalies
- B. Physiologic scoring
- C. Temperature regulation
- D. Hypoxia and hypercarbia

Unit 3. Mechanical Ventilation and CPAP

- A. Intubation of the neonate and child
- B. Considerations when initiating CMV in the neonate
- C. Considerations when initiating CMV in the child
- D. Principles and considerations of CPAP

Unit 4. Pediatric Therapy Procedures

- A. Resuscitation
- B. Medical gas therapy
- C. Bronchopulmonary hygiene
- D. Hyperinflation therapy
- E. Achieving cooperation

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals V

COURSE NUMBER: RTT 254

CREDITS: 3

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce the specific equipment and equipment modifications used to treat critically ill infants and children. The emphasis of this class will be on the equipment design and functional characteristics which classes them as pediatric equipment.

COURSE OBJECTIVES: Upon completion of this course the student will be able to:

1. Define and describe equipment used to support infants in the immediate post natal period.
2. Discuss the specific functional characteristics and demonstrate the ability to operate pediatric ventilators.
3. Explain the components of infant CPAP and demonstrate the ability to set up and apply this therapy.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 244 and concurrent enrollment in RTT 250 and RTT 252.

REQUIRED TEXTS: Burgess. Respiratory Therapy in Newborn Infants and Children. Thieme-Stratton Inc.
Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
McPherson. Respiratory Therapy Equipment. 4th Ed., C.V. Mosby.
Shoup. Lab Exercises in Respiratory Therapy. C.V. Mosby.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned to the instructor.

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OUTLINE DEVELOPED BY: Pat Ailenbaugh, R.R.T.

DATE: October 1984

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 2 LAB: 2

Unit 1. Infant Support Equipment

- A. Temperature regulation
- B. Oxygen therapy
- C. Isolation
- D. Humidification and airway care

Unit 2. Pediatric Ventilators

- A. Contrasts and comparisons with adult ventilators
- B. Pressure cycled ventilators
- C. Volume cycled ventilators
- D. Jet ventilators

Unit 3. Pediatric CPAP

- A. Choice of airway
- B. Oxygenation regulation
- C. Monitoring devices
- D. Setups

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Clinical Practice V

COURSE NUMBER: RTT 260

CREDITS: 8

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to provide the student with the necessary knowledge and skills to safely and effectively manage a patient on a mechanical ventilator.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Describe the physiological effects of positive pressure ventilation and the indications for mechanical ventilation.
2. Describe and demonstrate the skills necessary to safely and effectively apply continuous mechanical ventilation.
3. Describe and appropriately assess those guidelines used to monitor the ventilator patient.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of previous quarter and concurrent enrollment in RTT 262 and RTT 264.

REQUIRED TEXTS: Martz. Management of the Patient-Ventilator System.
2nd Ed., C.V. Mosby.
Pierson. Intensive Respiratory Care. 1st Ed., W.B. Saunders.

SUPPLEMENTAL
TEXTS: Nelson. Critical Care Respiratory Therapy. 1st Ed.,
Little-Brown.

ADDITIONAL
REFERENCES: Film strips, tapes and articles pertinent to the subject
matter will be assigned by the instructor.

(continued)

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS

Unit 1. Physiologic Effects of Positive Pressure Ventilation

- A. Increased mean intrathoracic pressure
- B. Decreased work of breathing
- C. Mechanical dilatation
- D. Manipulation of i:e ratio
- E. Improve distribution of ventilation
- F. Potential decrease in cardiac output
- G. Potential increase in intracranial pressure
- H. Potential decrease in urinary output
- I. Altered emotional state

Indications for Mechanical Ventilation

- A. Apnea
- B. Acute ventilatory failure
- C. Acute impending ventilatory failure
- D. Poor oxygenation

Unit 2. Guidelines for Ventilator Commitment

- A. Establish artificial airway
- B. Manual support of ventilation
- C. Record baseline values
- D. Appropriate monitoring of cardiovascular system
- E. Establish vent. pattern:
 - 1. V_T
 - 2. RR
 - 3. appropriate i:e ratio
 - 4. FiO_2
 - 5. peak flow
 - 6. sedation

Unit 3. Monitoring the Ventilator Patient

- A. Establish baseline readings
 - 1. compliance
 - 2. ABG
- B. Necessary monitoring alarms
 - 1. disconnect alarm
 - 2. high pressure alarm
 - 3. tidal volume alarm
 - 4. inverse i:e ratio alarm
 - 5. machine failure alarm
 - 6. FiO_2 alarm
- C. Monitoring cardiovascular system
 - 1. heart rate and rhythm
 - 2. blood pressure
 - 3. peripheral perfusion
 - 4. cardiac output
- D. Clinical monitoring of patient's overall condition

(continued)

Unit 3. (continued)

- E. Ventilator adjustments
- F. Maintaining appropriate bronchial hygiene
- G. Techniques for maintaining proper PaCO₂ levels
- H. Maintenance of adequate oxygenation

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Chronic Care and Rehabilitation of Respiratory Failure

COURSE NUMBER: RTT 262

CREDITS: 1

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce the concepts, knowledge and procedures specific to the care of people with chronic or long term pulmonary disorders. Emphasis will be placed on care of the patient and equipment in the home.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Relate the goals and aspects of chronic pulmonary care as they relate to rehabilitation or long term care.
2. Discuss the respiratory therapy techniques used in the home care of cardiopulmonary disorders.
3. List and discuss the services which are offered by local charitable and public health organizations to people with chronic cardiopulmonary disorders.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 254 and concurrent enrollment in RTT 260 and RTT 264.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

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OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 1

Unit 1. Goals and Objectives of Chronic Care

- A. Contrast and compare acute and chronic care
- B. Components of a rehabilitation program
- C. Initial evaluation
- D. Team approach

Unit 2. Respiratory Therapy in the Home Setting

- A. Control of infection
- B. Bronchial hygiene
- C. O₂ and other medications
- D. Continuous ventilator
- E. Psychosocial aspects

Unit 3. Local Resources

- A. Private charitable organizations
- B. Public and for profit agencies
- C. Community service

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals VI

COURSE NUMBER: RTT 264

CREDITS: 3

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course continues to build the concepts and skills needed to care for critically ill patients. Emphasis will be on advanced methods of diagnosing and monitoring the cardiopulmonary system.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Describe and discuss the electrophysiology of the heart and recognize basic cardiac arrhythmias.
2. Discuss and describe the equipment used to record and monitor cardiac function.
3. Relate and describe the clinical measurement of exhaled CO₂.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 254 and concurrent enrollment in RTT 260 and RTT 262.

REQUIRED TEXTS: Spearman. Egan's Fundamentals of Respiratory Therapy.
4th Ed., C.V. Mosby.

SUPPLEMENTAL
TEXTS:

Meltzer. Intensive Coronary Care. Brady.

ADDITIONAL
REFERENCES: Film strips, tapes and articles pertinent to the subject
matter will be assigned by the instructor

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 2 LAB: 2

Unit 1. Electrophysiology

- A. Cardiac cycle
- B. Common arrhythmias
- C. Clinical features

Unit 2. Cardiac Recording and Monitoring

- A. Electrocardiogram
- B. Equipment and techniques
- C. Long term distance monitoring

Unit 3. Capnography

- A. CO₂ physiology
- B. Clinical Applications
- C. Interpretations of capnograms

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: RTT 270

COURSE NUMBER: Clinical Practice VI CREDITS: 6

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is a continuation of RTT 250. Major emphasis will be placed on determining when ventilator discontinuance is feasible, transporting ventilator-dependent patients, and setting up and monitoring various auxiliary airway pressure maneuvers.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. List and describe the criteria used to evaluate a patient's ability to be weaned from mechanical ventilation.
2. Demonstrate the necessary skills and techniques used to measure and assess a patient's mechanical ventilatory function.
3. Describe the various weaning techniques used and demonstrate the skills necessary to safely and effectively set up each technique.
4. Describe the indications and purpose of CPAP/PEEP and demonstrate the skills required to safely and effectively set-up various CPAP/PEEP devices.
5. Demonstrate the knowledge and skills required to safely transport the critically ill ventilator patient within the hospital.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students (3 sections)

PREREQUISITES: Successful completion of previous quarter with concurrent enrollment in RTT 272 and RTT 274.

REQUIRED TEXTS: Martz. Management of Patient-Ventilator System.
2nd Ed., C.V. Mosby.
Pierson. Intensive Respiratory Care. 1st Ed., W.B. Saunders.

(continued)

SUPPLEMENTAL TEXTS: Dekorifeld. Respiratory Care Case Studies. 3rd Ed.,
Medical Examination Publishing Co.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject
matter will be assigned by the instructor.

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:

Unit 1. Weaning Criteria

- A. Cardiopulmonary pathology necessitating ventilator commitment reversed
- B. Assessment of oxygenation status
- C. Assessment of ventilatory mechanics
- D. Assessment of ventilation

Unit 2. Weaning Parameters

- A. Equipment needed
- B. Parameters to be performed
- C. Procedure

Unit 3. Various Weaning Techniques

- A. T-piece weaning (traditional)
- B. Gradual weaning
- C. Quick IMV (Intermittent Mandatory Ventilation)
- D. Gradual IMV
- E. Equipment needed
- F. Procedure

Unit 4. CPAP/PEEP (Continuous Positive Airway Pressure/Post End Expiratory Pressure)

- A. Indications and purpose
- B. Various PEEP devices
- C. Equipment needed
- D. Procedure
- E. Patient monitoring and assessment

Unit 5. Patient Transport

- A. Transport of the ventilator-dependent patient
 - 1. self-inflating vs flow-inflating bags
- B. Transport of the ventilator-dependent patient with PEEP
 - 1. PEEP transport systems
- C. Patient and equipment monitoring

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

C O U R S E O U T L I N E

DIVISION: Health and Human Services
CURRICULUM: Respiratory Therapy
COURSE TITLE: Respiratory Therapy Occupational Preparation
COURSE NUMBER: RTT 272 CREDITS: 3
TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to introduce students to the knowledge and skills needed to successfully find, secure and sustain employment in the profession of respiratory therapy.

COURSE OBJECTIVES: Upon successful completion of this course, the student will be able to:

1. Prepare a resume, discussing the information it should contain and the style of presentation most effective in summarizing their experiences.
2. List the components of the job interview process, assess their individual performance in video simulations.
3. Relate the determinants of effective interpersonal communications in health professions and demonstrate the ability to utilize these skills in simulated situations.
4. Identify and discuss the attitudes and behaviors most often associated with successful employment.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 264.
Concurrent enrollment in RTT 270 and RTT 274.

REQUIRED TEXTS: Purtilo. Health Professional/Patient Interaction.
3rd Ed., W.B. Saunders.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject matter will be assigned by the instructor.

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

Unit 1. Resume Preparation

- A. Content
- B. Organization and style
- C. Document preparation

Unit 2. Interviewing for a Job

- A. Employers point of view
- B. Presenting your total package
- C. Practice video taped simulated interviews
- D. Critique

Unit 3. Interpersonal Communications

- A. Working with people
- B. Styles of approaching professional tasks
- C. The Health Care Team

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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C O U R S E O U T L I N E

DIVISION: Health and Human Services

CURRICULUM: Respiratory Therapy

COURSE TITLE: Respiratory Fundamentals VII

COURSE NUMBER: RTT 274

CREDITS: 2

TYPE OF COURSE: Occupational Preparatory

COURSE DESCRIPTION:

This course is designed to build on concepts and skills developed in previous courses. The focus is on advanced techniques used to diagnose and monitor patients with cardiopulmonary disorders.

COURSE OBJECTIVES: Upon completion of this course, the student will be able to:

1. Define and discuss specialized pulmonary function tests used when routine tests are inadequate in completing a cardiopulmonary diagnosis.
2. Explain the concept and equipment used in non-invasive monitoring of blood gases.
3. Discuss and describe the equipment used to measure the gases and pH dissolved in body fluids.

LENGTH OF COURSE: One quarter

CLASS SIZE: 30 students

PREREQUISITES: Successful completion of RTT 110 through RTT 264.
Concurrent enrollment in RTT 270 and RTT 272.

REQUIRED TEXTS: Burton. Respiratory Care. 2nd Ed., J.P. Lippincott.
McPherson. Respiratory Therapy Equipment. 3rd Ed.,
C.V. Mosby.

ADDITIONAL REFERENCES: Film strips, tapes and articles pertinent to the subject
matter will be assigned by the instructor.

(continued)

OUTLINE DEVELOPED BY: Pat Allenbaugh, R.R.T.

DATE: October 1984

TOPICAL OUTLINE AND
MAJOR DIVISIONS:

APPROXIMATE HOURS:
LECTURE: 1½ LAB: 1

Unit 1. Specialized Pulmonary Function Tests

- A. Diffusing capacities
- B. Flow volume loops
- C. Mechanics of breathing tests
- D. Ventilation/perfusion scans

Unit 2. Transcutaneous Blood Gas Monitoring

- A. Concepts
- B. Equipment
- C. Application and troubleshooting

Unit 3. Blood Gas Analyzers

- A. Blood gas electrodes
- B. Mass spectrometry
- C. Chemical analysis
- D. Equipment

EVALUATION METHOD

The course will be evaluated by written examination, lab skill demonstrations and written assignments. The midterm and final exams will be comprehensive for the quarter. All exams will be retained by the instructor.

COURSE REQUIREMENTS AND GRADING

To pass this course, students must maintain a minimum "C" grade which is defined as achieving at least 75% on all quizzes, exams, laboratory and written assignments. If a score of less than 75% is received on an exam, the student has the option of retaking one exam during this course. The maximum grade attainable on a retake is 75%. Retakes will be during a time arranged for and specified by the instructor.

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